

WEST COAST WILDERNESS RAILWAY

CEREMONY REPORT



Abt locomotive on the rack rail

WCWR

on the presentation of an
ENGINEERING HERITAGE INTERNATIONAL MARKER

on 11 May 2016

Prepared by
Engineering Heritage Tasmania

June 2016

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1. PLANNING FOR THE CEREMONY

The date was chosen towards the end of the busy tourist season when a train would be available to take the attendees from Queenstown to Lynchford, the first station down the line. Beside the station there is a building used by tourists while the adjacent gold panning activity is going on. One of the rooms can seat up to 50 people. Other spaces display interesting facets of the railway's history.

So that was the brilliant plan hatched by the General Manager of the Railway, for the presentation of Tasmania's first international marker.

Another factor influencing the date was the need to avoid a parliamentary sitting week so that the Minister for Infrastructure, the nominal owner of the railway, could attend.

Sadly the Governor of Tasmania was not free to come on that day.

Planning for the ceremony was undertaken by

- Bruce Cole, Chair, Engineering Heritage Tasmania (EHT)
- Ian Cooper, EHT Committee member who wrote the nomination
- Dr Vicki Gardiner, General Manager of Tasmania Division
- Michael Saville, General Manager of the Railway (WCWR)

2. INTERPRETATION PANELS

It was agreed that a marker and an interpretation panel would be needed at both ends of the line, namely Queenstown Station and Regatta Point Station. Site visits and discussion with the WCWR fixed the precise locations. There was no conflict with existing interpretation.

Ian Cooper prepared a trial panel design using MS PowerPoint. He had many good photographs to choose from and gradually reduced the text to the recommended limit. His final design was sent to EA's graphic artist who produced a very attractive version. Permission to use all the photos and logos was obtained.

A local firm called Eye Spy won the contract for producing the two panels and the supporting aluminium frames. The graphic image was printed on a vinyl sheet and glued onto the aluminium substrate.


3. INVITATIONS

Because of the limited space for the ceremony, the function became an invitation only event and only 50 invitations were issued. EHT and WCWR combined to produce the invitation list.


Advertising the event and the issuing of invitations were handled by Victoria Division as those services are not available in Tasmania Division. Most of the invitations were sent out by email; a few were sent by mail where an email address was not known.

The RSVP date was set two weeks before the ceremony date so that additional people could be invited if acceptances were low. Invitees were required to register on line and not everyone was willing to do this. Two email addresses for important invitees were incorrect but no action was taken when these emails bounced.

The on line invitation



West Coast Wilderness Railway Engineering Heritage International Recognition Ceremony



VIP Complimentary Invitation: Engineering Heritage International Recognition Ceremony

Dear %First Name%,

Engineers Australia, Engineering Heritage Tasmania, and West Coast Wilderness Railway cordially invite you to join us in recognising the significance of the West Coast Wilderness Railway (WCWR) at an exclusive invitation only event on Wednesday 11 May, 2016.

Formerly the Mount Lyell Abt Railway, the WCWR was built to efficiently transport copper from Mt Lyell to Strahan.


Date & Time:
Wednesday 11 May
10:30am - 12:45pm

Venue:
Queenstown Railway
Station
Driffield Street
Queenstown, Tasmania

RSVP essential by:
Friday 29 April
This is an invitation only event,
your attendance must be
registered.

Contact:
Engineers Australia
Tasmania
03 6218 1901
[Email](#)

[REGISTER NOW](#)



The design of the railway included cutting edge technology, the Abt rack-rail system to negotiate the steep inclines, which was proposed by engineer F.A. Cutten. The construction of the railway spanned over a six year a period from 1894 – 1899.

The railway was restored in 2000 and now operates as a tourist heritage railway over the full 34.5 kilometres between Queenstown and Regatta Point.




The Ceremony
The WCWR will be awarded an Engineering Heritage International Marker at Lynchford Railway Station. The event will begin at Queenstown Railway Station and include a return trip along the line to Lynchford Railway Station.

To secure your attendance, please click on the **'Register Now'** button on the right hand side.

I look forward to seeing you on the day.

Regards,

Riaden Knightley MIEAust CPEng HER
President
Engineers Australia, Tasmania



www.engineersaustralia.org.au

By the RSVP date, only 32 acceptances were received, perhaps due to the tyranny of distance to Queenstown. Ian Cooper made some follow-up phone calls. Tasmania Division and WCWR then issued several extra invitations and allowed some wives to attend. Final attendance was almost 40.

An internal report showed that many invitees did not open their emails and others did not proceed to register.

Those who accepted were emailed (or mailed) the following information:

Thank you for your recent registration to attend the following:

West Coast Wilderness Railway Engineering Heritage Recognition Ceremony

Date: Wednesday 11 May, 2016

Time: 10:30am – 12:45pm

Venue: Queenstown Railway Station

Address: Driffield Street, Queenstown, TAS

Event Schedule

*10:30am – attendees arrive at Queenstown Railway Station
and inspect the station museum*

11:00am – Train departs for Lynchford Railway Station

*11:30am – Engineering Heritage International Recognition
Ceremony at Lynchford Railway Station*

12:00pm – Refreshments and networking

12:30pm – Train departs for Queenstown Railway Station

12:45pm – Train arrives at Queenstown Railway Station

Comfortable shoes, warm clothes and umbrellas are recommended.

Regards

Engineers Australia, Tasmania

03 6218 1901

tasevents@engineersaustralia.org.au

4. THE TRAIN RIDE

Attendees gathered on the Queenstown Station platform at 10.30am where the train was waiting. There is a cafe, booking office, souvenir shop and a museum in the platform building. With a constant downpour outside, rain coats and umbrellas were the order of the day. Some people grabbed a coffee and others inspected the Abt locomotive breathing steam beside the platform.

On board at 11am the passengers were given the regulation safety instructions about not leaning outside as some of the cuttings are very narrow. During the 15 minute journey, the passengers were treated to a glass of bubbly and some canapés courtesy of the Railway; much appreciated.

On arrival at Lynchford Station, with time to spare and media present, opportunities were taken for photographs and interviews with the train as a back drop.

5. THE CEREMONY

The room was set up with about 40 chairs with a lectern and the covered interpretation panel and markers at the front. The first row of seats was reserved for the speakers.

Both an EA banner and an EHT banner were on display. A souvenir program was placed on every seat.

The Minister for Infrastructure Rene Hidding, the nominal owner of the railway, was to be the first speaker but he had to attend a friend's funeral at short notice and his place was taken by the local Liberal member.

The speakers were:

- Joan Rylah, MHA member for Braddon.
- Ian Cooper, EHT Committee member who wrote the nomination
- John McIntosh, National President of EA
- Michael Saville, General Manager of WCWR

Bruce Cole acted as MC and introduced the speakers.

Souvenir Program outside

Engineering Heritage Recognition Program

The erection of markers and interpretation panels attracts public attention to important historic engineering works and sites. A marker is awarded only after the preparation of a detailed nomination and assessment by a national committee.

Engineering works which have received National Markers include the Sydney Harbour Bridge, the Goldfields Water Supply Scheme in Western Australia and the Snowy Mountains Scheme. Australia-wide, almost 200 works of significance have been recognised since 1984.

Here in Tasmania, six engineering works have received national recognition, including the Ross Bridge 1836, Electrolytic Zinc Works 1935 and Gordon Dam 1956.

Eighteen more have been awarded Engineering Heritage Markers, including the World's Oldest McNaught Beam Engine 1854 (outside the TAFE College in Hobart), Lake Margaret Power Scheme 1914 near Queenstown and the Beyer Neavins Mill 1943.

A new category of Engineering Heritage International Marker was introduced in 2014, and so far six have been awarded on the mainland. The West Coast Wilderness Railway is the first international award in Tasmania.

engineersaustralia.org.au/engineering-heritage-australia





Official Ceremony
for the presentation of an

Engineering Heritage International Marker

for West Coast Wilderness Railway



Abt locomotive on rack rail



Apika timber trestle bridge

11 May 2016




Souvenir Program inside



Program for the Heritage Recognition Ceremony

at Lynchford Station
on Tuesday 11 May 2016

Master of Ceremonies:
Mr Bruce Cole
RCMist CPDgHeli
Chair, Engineering Heritage Tasmania

Address:
The Hon. Rene Hidding MP
Minister for Infrastructure

Design and Construction of the Railway
Mr Ian Cooper
RCMist CPDgHeli
Principal's representative for the restoration works

Presentation of the Heritage Markers
Mr John McIntosh
RCMist CPDgHeli RER APCO Engineer
National President, Engineers Australia

Unveiling the Heritage Markers and Panels

Acceptance of Heritage Markers
Mr Michael Saville
General Manager, West Coast Wilderness Railway

Closing Announcements
Mr Bruce Cole

A Brief History

The Mt Lyell Mining & Railway Company needed a railway to carry its copper concentrates from the mine to the port of Strahan. They identified three suitable routes for the railway, finally choosing the shortest route following the King and Queen Rivers. There was however an impassable gorge on the King River. The solution was to divert the railway around the gorge by climbing up Sallor Jack Creek from the King River and crossing Stradens saddle down to Hall's Creek near the Queen River.

Normal railways which rely on adhesion are limited to grades of 1 in 40 or flatter, but this diversion involved much steeper grades of up to 1 in 16 which could only be climbed by a rack railway. Surveyor and engineer Frederick Custer recommended adoption of Abt rack and pinion system.

Dr Carl Roman Abt's design used a toothed cog under the engine to engage with the toothed rack rail midway between the adhesion rails. Both the main wheels and the cog are driven on the climb. On the descent the rack system can be used as a brake.

The 23 km of railway from Teapookana on the King River to Queenstown was constructed mostly by pick and shovel using multiple gangs along the route. That took only 19 months despite the wet and cold conditions and rugged terrain.

The first of 5 Abt locomotives arrived from Glasgow in August 1896 and was assembled at Camp Spur. After a successful trial on a short section of rack rail, the rack rail was then laid up and down the incline. On 19 November 1896 Abt locomotive No.1 arrived in Queenstown. Hoorsay!

The 11 km extension from Teapookana to Ropetia Point near Strahan was completed in October 1899. Along the whole line, 48 bridges were built, mostly from tall timber felled along the way.

After 67 years of valiant service, the railway was closed in 1963. The rail and sleepers were torn up, and four of the five locomotives were put on display.

In 2000 the restored railway and locomotives came to life again as the heritage and tourist railway we see today.

6. THE SPEAKERS

MC

In appreciation for the use of the land on which we meet today, I would like to acknowledge the traditional custodians of this region.

Ms Rylah, Distinguished Guests, Ladies and Gentlemen.

My name is Bruce Cole and I am the Chairman of Engineering Heritage Tasmania which is a special interest group within Engineers Australia. It is with great pleasure and pride that I am your master of ceremony for today.

On behalf of Engineers Australia and the West Coast Wilderness Railway, I welcome you all, and in particular

- Ms Joan Rylah, MHA for Braddon, representing the Hon Rene Hidding, Minister for Infrastructure
- Mr John McIntosh, National President of Engineers Australia
- Mr Ridsen Knightly, the President of the Tasmania Division of Engineers Australia
- Mr Phil Vickers, Mayor of the West Coast Council.
- Mr Michael Saville, General Manager of the Railway

I would now like to introduce our first speaker, Ms Joan Rylah, who is representing the Minister for Infrastructure today. We received sad news that a friend of the Minister has passed away and, we send our deepest sympathies to him. Minister Hidding has a portfolio of great importance to the community and of great interest to engineers. It is certainly a pleasure having you here, Joan, as the local member representing the Minister.

Today Joan speaks to us on behalf of the State Government which is the official owner of the Railway.

Joan, we look forward to your address.

6.1 JOAN RYLAH

135 years ago, a man called Cornelius Lynch found gold – just over there at the small rivulet that is now known as Lynch's Creek. Back then, Cornelius would have had to travel up the King River and walk to this spot, navigating rugged terrain and almost impenetrable bush – such was the lure of wealth.

Further gold discoveries were made, and the search for this precious metal began in earnest.

The rich metal resources found around Queenstown and the West Coast have always played an important role in Tasmania's economy. It was in response to an economic downturn that the Government of the day sent out prospecting parties with the hope of finding more and more metal.

But what came back was not gold, but the discovery of copper at Mt Lyell that transformed the region. This became known as the world's richest copper deposit.

Within 3 years, the first 100 tons of copper ore was transported by bullock drays across 50 kilometres of hilly, boggy terrain to Strahan, where it was then put on the newly completed railway to the Argenton smelter, south of Zeehan.

As we all know, infrastructure is at the heart of economic growth and improved standards of living, and back in the late 1800s, this was no different.

For the Mt Lyell Mining company to expand, a reliable and efficient transport system was required to replace the bullock teams. This was not only required to take copper to Strahan, but also to bring in modern heavy mining equipment.

So, within 2 years of the first discovery of gold at Lynch's Creek, the Tasmanian Government approved a railway and the Mount Lyell Mining and Railway Company was formed in 1893.

Construction began on the first section of the railway from Queenstown to Teepookana in early 1894 and was completed in 1896. The second stage, continuing on to Regatta Point was completed two years later.

By 1901, Queenstown had over 5000 residents, 14 hotels, banks schools and shops. It soon gained electric street lighting, powered by the oldest operating hydro electric power scheme in Australia at Lake Margaret.

Since this time, the region has yielded copper, gold, lead, zinc and silver with an estimated value of \$8 billion.

So obviously, the railway was critical in developing the region's economy, but what about its social impact?

The railway became a vital link and had multiple uses. In addition to its role of servicing the mining industry by transporting product to Strahan and coal and coke back to Queenstown for the furnaces, it was also used to bring supplies and products back to the thriving community.

Perhaps you could say that it was one of the earliest examples of public transport in the state, with the Company providing passenger services for some mine employees who elected to live in Strahan and commute daily to Queenstown.

It also played an important social role in transporting Queenstown based Mt Lyell employees and their families to the annual picnic at West Strahan.

During the disastrous mine fire of 1912, the Railway played a significant role in getting vitally needed equipment that had been shipped from Melbourne to Burnie and via rail to Zeehan where one of the Abt locomotives transported the equipment to Queenstown.

The railway continued operating for 67 years, through natural disasters including bushfires, and the 1906 floods, which wiped out three bridges, damaged five others and closed the line for several weeks.

It would outlast capricious events such as the 1919 flu epidemic that cut the workforce and, combined with a shipping strike, led to the first recorded annual loss for the railway.

However, improved road transport to the North-West of the State made it a more effective option for transporting the ore, and so the railway was closed in 1963.

While mining has still been a major industry for the region, tourism has been building and the amazing scenery and history of the region, led to a push by the Mount Lyell

Abt Railway Society to campaign of fund raising for the ultimate restoration of the railway.

In 1998, the Mount Lyell Abt Railway was restored as a classic heritage tourism entity as a result of funding from both the Centenary of Federation Fund and State Government.

The West Coast Wilderness Railway, as it is now known, has now been operating for over 13 years. The train travel experience has been enhanced by gold panning here at Lynchford, leatherwood honey at Lower Landing, views of the King River Gorge at Dubbil Barril and an on-board commentary on railway history.

Significant improvements to the infrastructure and rolling stock have been made during that time with the aim of improving the economic viability of the venture and passenger comfort.

So the West Coast Wilderness Railway is still a significant contributor to the region's economy, being one of the State's greatest tourism attractions. It runs daily services from both Queenstown and Regatta Point stations during the peak tourist periods and is a drawcard for international and Australian visitors to Tasmania.

With the listing of the West Coast Wilderness Railway as an Engineering Heritage International Marker, we can expect the Railway to gain further overseas recognition.

In fact, along with the railway, the Mount Lyell Mine, Lake Margaret Power Station, other hydro Tasmania facilities and the West Coast Heritage Museum at Zeehan, I can see the West Coast Region becoming a hub for engineering and mining heritage that will draw significant visitor interest to the state and the West Coast.

MC

Thank you Joan

I now have the great pleasure in introducing to you Ian Cooper, an engineer who is a member of the Engineering Heritage Tasmania Committee.

Ian Cooper retired from the Department of Infrastructure Energy and Resources in 2011, having been closely involved in the reconstruction of the railway since 1999.

He was the Principal's representative for the award of the contracts for the restoration, and the manager for the Abt Railway Ministerial Corporation which oversaw the restoration.

Ian wrote the comprehensive nomination which resulted in the international award to be presented today and will give us some insight as to the significance of the railway.

6.2 IAN COOPER

Ms Joan Rylah, MHA for Braddon

Distinguished Guests

Ladies & Gentlemen

The Mount Lyell Railway was to become the Tasmanian colony's largest and most challenging engineering construction project of the late 1800s.

After receiving Parliamentary approval in early 1893, the Company's survey teams, under the leadership of Frederick Cutten, set out from various locations along the northern banks of Macquarie Harbour.

The *Mercury's* Correspondent of the time provided a vivid description of the challenges encountered by the survey teams:

To convey a realistic idea of the privation, peril, physical exertion and suffering experienced by all connected with these surveys, is hardly possible. In the precipitous gorges of the King and its affluent watercourses, the labour of clambering along anything like a set course was next to superhuman.

The shortest route following the King and Queen Rivers was chosen. This route however had an impassable gorge along the King River and the solution was to divert the railway up and over the Rinadeena Saddle. This required a rack-rail system to navigate the steep 1 in 16 grades.

Cutten recommended Roman Abt rack and pinion system that was cutting-edge technology at the time and less than a decade old.

Construction of the railway

The contract for the first section from Teepookana to the base of the incline awarded to the Melbourne-based firm of Garnsworthy and Smith. This contract included the 'Quarter Mile' bridge spanning the King River.

Work on this section proved extremely troublesome for both the contractor and the workers; the majority being Victorian imports who were ill-equipped and poorly prepared for the harsh West Coast environment.

The Company became dissatisfied with the slow progress and appointed Edward Carus Driffield as Railway Engineer to oversee the whole project and hopefully accelerate the works.

Driffield hired 400 labourers (day-labour as we know it today) and established a number of bush camps between Dubbil Barril and Lynchford.

The crews cleared timber, excavated deep cuttings and built embankments with pick, shovel and wheelbarrow.

They also built 26 timber trestle bridges along the 1.6km of the King River gorge with the unique feature being the stepped footings for the trestle supports. These same footings have been used in the building of restoration project's trestle bridges.

Despite the rough terrain, dense vegetation and wet and cold conditions, the work on the whole 23km stage from Teepookana to Queenstown was completed in 19 months; **a significant engineering achievement.**

The second stage of the 11 km extension through to Regatta Point was operational 3 years later. This section included the 43m steel Pratt truss over the King River at Teepookana and became known as 'Iron Bridge'.

The truss was designed and manufactured in London by Westwood & Company with the sections transported by steamship to Hobart and then by the coastal steamship 'Meeinderry' to Strahan.

Locomotives

The first Abt locomotive arrived in August 1896 and was assembled at the Camp Spur base camp, situated on a relatively flat area beside the King River.

Following a satisfactory trial run of Abt No 1 on a test track, the centrally-located rack rail was installed up and over the two inclines.

The Abt locomotives were designed and manufactured by Dübs of Glasgow and purpose-built for Mount Lyell and so were and still are unique entities.

The Mount Lyell workshops worked on changes to the locomotives, particularly to Abt No. 1, and sent suggestions back to the manufacturer for improvements to the follow-up models.

After operating on coal for 60 years the locomotives were remodelled to fire with firstly bunker fuel and eventually on to diesel.

Closure

By the 1960s, the Company's locomotives and wagons were wearing out and numerous bridges needed repairs or replacement, with the Quarter-Mile Bridge presenting a significant problem for the Company.

With the completion of the Murchison Highway road link to the north, more economical transport options became available and the Mount Lyell Abt Railway was closed in April 1963.

Rebirth

As mentioned by Minister Hidding, pressure grew from a group of dedicated Westcoasters to have the railway restored as a heritage and tourist railway.

In 1998 funding became available and engineering consultants, Sinclair Knight Merz, under the direction of Project Engineer, William (Bill) Lawson, began work on the engineering scoping and planning, environmental impact assessment, and the preparation of contact documents.

The planning process became an exercise of balancing the requirements of Modern-day standards, occupational and the new rail safety regulations, and a range of environmental, historic, cultural and socially significant issues, ALL against tight budget constraints.

In addition to the tourism-focused passenger operation, the new railway had to provide a freight train service to provide access to Lower Landing and on to the Teepookana Plateau for the Huon pine timber and Leatherwood honey harvesting operation.

Restoration

Restoration work began in February 2000.

The Design & Construct siteworks contract was awarded to the Tasmanian firm, Hazell Bros Civil Contracting who engaged Johnstone McGee & Gandy as their engineering consultants.

Johnstone McGee & Gandy made strenuous efforts to provide a genuine heritage experience. Four trestle bridges were re-built in sawn timber, as visual replicas of the originals structures.

The Iron Bridge at Teepookana was refurbished and with tests showing that the bridge steel was weldable, permitted strengthening plates and bracings to be added without impacting on the visual presentation of the structure.

The locomotive restoration contract went to Saunders and Ward, another Tasmanian-based firm.

Saunders & Ward rebuilt two of the original Abt steam locomotives (Abt1 and Abt3)

and refurbished two Drewry diesel locomotives, to meet today's' safety standards without impacting on the heritage significance. 4 years later Abt No. 5 was restored and added to the fleet.

The third contract, that of the Railway Operator, was awarded to Honeybank Corporation, owned by entrepreneur, Roger Smith. In addition to operating the railway, the contract required the building of eight passenger carriages, railway stations at Queenstown, Rinadeena, Dubbil Barril and Lower Landing, and a maintenance depot in Queenstown.

Full Rail Safety Accreditation, for both the passenger and the freight operation for the restored Abt Railway was granted in December 2002.

In 2004 the Abt Railway Ministerial Corporation provided additional funding to have the original Regatta Point engine shed restored for locomotive maintenance and storage.

The dedicated West Coast Wilderness Railway personnel achieved significant improvements aimed at improving the economic operation of the locomotives.

These included a change to recycled oil and improvements to the exhaust system that reduced the locomotive operating costs by 30 per cent.

After operating the railway for over 10 years, WCWR's parent company gave notice in 2013 that for economic reasons it was no longer able to continue as the Railway Lessee and Operator and closed its operation in April 2013.

After a short break in service, the Government took over the operation, while searching for a private firm to take over as Operator.

I would also like to acknowledge the involvement of Russell Holland and his wife Helen in establishing the Abt Railway Museum that now resides in the Queenstown Station. Russell was Chairman of the Mount Lyell Abt Railway Society at the time and had a wealth of information regarding the Railway. Regrettably Russell passed away in 2010.

Conclusion

One of the ways of preventing the loss of our engineering heritage is to turn the assets into viable tourist attractions. The reconstruction of this Railway is one outstanding example.

I look forward to its on-going operation so my grandchildren and many others can experience the trip on our unique West Coast Wilderness (Abt) Railway.

MC

Thank you Ian

Our next speaker is John McIntosh. John is the National President of Engineers Australia. He is strong supporter of the Tasmania Division and our heritage activities, having come over from Melbourne for the Richmond Bridge award in 2014 and Hobart's Floating Bridge award in 2015. John, welcome to our ceremony today and I see that you've been forewarned of the West Coast weather.

Ladies and gentlemen, John McIntosh.

6.3 JOHN MCINTOSH

Joan Rylah, MHA for Braddon

Mr Phil Vickers, Mayor, West Coast Council

Mr Ridsen Knightly, President Tasmania Division, Engineers Australia

Ladies & Gentlemen

It is a pleasure to take part in this ceremony today. The stories that have been told by Ms Rylah and Ian Cooper have demonstrated the important link between good infrastructure, increased productivity and high standards of living.

The Abt Railway was a magnificent engineering achievement but as we've heard, with the introduction of new innovations and improved transportation options, the railway had done its job and was replaced.

Tasmania is a very unique place where the community and government have done their best to recognise the importance of items of historic significance and, in doing so, we are able to remember the contribution of those early innovators.

A large number of these people are the engineers, the scientists, the innovators, the entrepreneurs, the designers, the builders, those with long-term visions and those with a passion for their community and its heritage. The conservation of our heritage both culturally and spiritually enriches our nation, and keeps alive the stories and achievements of earlier generations as well as appreciating the innovation and ingenuity of the traditional custodians.

One of the best ways to conserve our heritage is to adapt it to a new use. Engineers are very good at doing this with the least possible impact on the heritage significance. In restoring the railway, it was essential to meet current safety standards for the operation of these ancient engines, for the train drivers and for the carriage of passengers. These changes have been carefully disguised so that outwardly the engines appear as they were in all those years ago.

Since 1984, through their **Engineering Heritage Recognition Program**, the engineering heritage groups of Engineers Australia have been bringing public recognition to engineering works of historic or heritage significance and to the modern engineers who created them. In doing so they encourage the conservation of our engineering heritage and help the community understand engineering, and value the benefits it provides.

There are now 200 historic engineering works Australia-wide that have been recognised with heritage awards. These awards are not given lightly. A formal nomination is prepared to present the history of the work and its heritage significance, under criteria similar to those used for listing on heritage registers around Australia. The nomination is assessed by the national panel which decides whether an award is justified and, if so, at what level.

There have been 22 engineering heritage awards in Tasmania, of which only six have previously been recognised as being of national significance. These include the

Waddamana A Power Station (1916) complete with its original turbines and generators, now a museum.

The Boyer Newsprint Mill (1941), the first paper mill in the world to make newsprint from hardwood.

The Cethana and Gordon Dams (1971), the latter being the highest arch dam and the largest storage in Australia, and

The Electrolytic Zinc Works which was the first electrolytic zinc plant in the Southern Hemisphere, whose technology was replicated world-wide.

Hobart's Floating Bridge which provided the first affordable crossing of the Derwent at Hobart for 21 years.

The **Engineering Heritage International Award** was introduced in 2012, and to date only five have been made Australia wide. Today we are awarding the first one in Tasmania.

The **Mt Lyell Abt Railway**, now the **West Coast Wilderness Railway**, has been identified with an **Engineering Heritage International Marker** for several reasons:

- It solved the challenging problem of how best to transport the Mt Lyell copper to the port of Strahan.
- It adopted the latest technology to overcome the steep grades up and over Rinadeena Saddle.
- It provided the only link between the Queenstown community and the rest of the world until the Lyell Highway was built in the 1930s.
- Its resurrection in 2000 as the **West Coast Wilderness Railway** has been a wonderful achievement of great benefit to tourism and the local community.

I have much pleasure in presenting these **Engineering Heritage International Markers** to Ms Rylah and the General Manager of the Railway. The Railway has funded the attractive Interpretation Panels which tell the fascinating stories of the Railway. They are to be erected at the Stations at each end on the Railway.

I hope that the awarding of this significant international marker will help to increase the West Coast Wilderness Railway's appeal as an international destination, so the railway will continue to add great value to Tasmania's Tourism industry.

I invite the Ms Rylah and the General Manager to join me in unveiling the two markers and an interpretation panel.

Thank you.

UNVEILING THE MARKER AND PANEL

At this point, the red silk cloth covering the Interpretation Panel was removed, and the two markers were displayed, then held by Ms Rylah and Mike Saville while a blaze of flashlights went off.

MC

To make the acceptance speech on behalf of the West Coast Wilderness Railway, I would like to welcome Mike Saville. Mike is the General Manager of the Railway. He was appointed for his expertise in managing and marketing because the viability of the railway depends on building up its customer base.

Today's ceremony could easily have been held in Queenstown but it was Mike's brilliant idea to include an authentic train ride in the celebration.

Mike has been very easy to work with in making all the arrangements for the ceremony today. For that we are truly grateful.

Over to you, Mike.

6.4 MIKE SAVILLE

I am delighted to receive the Engineering Heritage International Marker on behalf of the West Coast Wilderness Railway – a lot has been said this morning regarding this amazing engineering feat. The team at the railway are privileged to now be the custodians of the railway and charged with the responsibility of maintaining and improving the infrastructure, rolling stock and business to ensure this engineering excellence is enjoyed by people throughout Tasmania, Australia and the rest of the world for many years to come.

We have some of our crew here today that maintain the infrastructure each and everyday and we often marvel at the construction and how challenging it would have been to design and construct the railway in this rugged and uncompromising environment. Design and construct they did and today is about acknowledging the superb job they did and the fact we are still operating today is testament to the fine job they did 120 years ago!

I would like to thank all those people who worked and lobbied hard to first get this open as a tourist heritage railway and then re-open two years ago – you only have to read the reviews and to see the faces of the thousands of passengers we carry to understand how important it is to keep this type of attraction going and this Engineering Heritage International Marker not only acknowledges the engineering excellence but will also make the railway even more in demand as an attraction.

MC

Ladies and Gentlemen, in closing the ceremony, I would like to express our sincere thanks to the West Coast Wilderness Railway for allowing us to ride on the train to this wonderful spot, for providing this venue, for funding the interpretation panels and for providing the refreshments.

I now invite you to inspect the markers and the panel, and to partake of the refreshments. The train will depart for Queenstown at 12.30pm.

Thank you all for coming.

At this point **Roger Smith** requested a chance to add a few words. He was an entrepreneur and the driving force in 1998 pushing for the restoration of the railway. He spoke about the support given to him by Premier Jim Bacon and going to Canberra to lobby Prime Minister John Howard successfully for \$20.5 million from the Federal Government.

7. REFRESHMENTS AND RETURN JOURNEY

Drinks and light refreshments were served in the next room. Attendees had the opportunity to look at various exhibits in the building. Reporters conducted interviews of Michael Saville and Vicki Gardiner. More photographs were taken

The train departed on time at 12.30pm after a highly successful ceremony. On arrival at Queenstown Station, people did not hurry away but continued to chat, visit the museum and souvenir shop, and recall many historical events. It was still raining.

8. MARKER INSTALLATION

The installation of the markers and interpretation panels at the two stations was undertaken by the railway staff after the ceremony.

9. PHOTOGRAPHS

9.1 Restored locomotive in steam, taking on water



Photo: Vicki Gardiner

9.2 Attendees inside a carriage



Photo: Vicki Gardiner

9.3 National President John McIntosh enjoying the ride



Photo: Vicki Gardiner

9.4 Ceremony room at Lynchford with panel covered



Photo: Vicki Gardiner

9.5 Joan Rylah speaking



Photo: Vicki Gardiner

9.6 John McIntosh speaking



Photo: WCWR

9.7 Marker presentation and panel



Photo: Vicki Gardiner

L to R: Joan Rylah, Michael Saville, John McIntosh

9.8 Ian Cooper and Marker



Photo: Vicki Gardiner

9.9 Queenstown Station Marker and Panel



Photo: WCWR

9.10 Regatta Point Station Marker and Panel



Photo: WCWR

9.11 Interpretation Panel

WEST COAST WILDERNESS RAILWAY

formerly Mount Lyell Abt Railway

ENGINEERING THE RAILWAY

Why Build a railway?

Transporting a sample of copper ore from Mt Lyell to Strathorn using 40 horse teams and wagons over 1000 metres proved slow and arduous, convincing the Company that a railway was essential.

The best route

Survey teams led by Engineer F.A. Cutten identified three feasible routes with the shortest via the King and Queen River valleys chosen in spite of its steep grades over the Simmonds Ladder. Cutten proposed the Abt system - a unique engineering technology at the time - to negotiate the steep incline.

Construction - Stage 1 (1894-1896) Stage 2 (1898-1899)

The contractor for the initial section made slow progress, experiencing low worker morale in the harsh working conditions. Engineer E.C. Driffield was engaged to oversee the whole project and speed up the work by employing day labour teams based in camps along the route. Workers arrived with hand tools and when necessary filled in, excavated formations, and built embankments along with 40 bridges. The whole first stage from Teepookana to Queenstown was completed in 14 months, an exceptional engineering achievement.

The second stage from Lyagetta Point, Strathorn to Teepookana was completed in 1899 with another 17 bridges including iron bridges over the King River.

RESTORING THE RAILWAY

The railway ceased operation in 1960 when road transport became a more economical option. Some 25 years later the railway was restored and now operates as a tourist heritage railway over the full 34.5 kilometres between Queenstown and Lyagetta Point. In 2020, West Coast Wilderness Railway won the Inaugural Engineering Heritage (Aust) Chief Award in recognition of the restoration as its major engineering project with clear attention to heritage and the environment.

THE ABT LOCOMOTIVES

The five Abt locomotives had two sets of steam cylinders, one for normal rails and one for the central rail section. On the steep rail section both sets operate together with the locomotive driver synchronising the drive on the approach to the rail section. Two locomotives, Abt1 and Abt2, were refurbished in 2000, followed by Abt3 in 2002. All three locomotives operate on the railway today.



Refurbished locomotive descending on rail rail to Queen River over timber trestle bridge with view of King River gorge.

Courtesy West Coast Wilderness Railway (WCWR)



Abt No. 1 locomotive in view being turned on the original patented turntable at Queen River prior to its return to Queenstown.

Courtesy Sir G. Cooper

IRON BRIDGE AT TEEPPOOKANA

Iron bridge is the only remaining bridge of the original construction. The main span, a 40m, 132t Pratt truss manufactured in London, was shipped to Strathorn then barged to Teepookana. The riveted truss resting on a barge was hauled across the river.

Tests showed the bridge steel was weldable, assisting the restoration of the century-old bridge.



Unveiling the main span truss from Teepookana side of King River.

Courtesy WCWR



View of completed iron bridge looking south.

Courtesy WCWR

IMPORTANT ENGINEERS

Dr Carl Sumner AMT
(1859-1933)
Qualified mechanical engineering in Zurich. In 1882 he designed and patented a rail-rail system that was cheaper to manufacture and easier to maintain than earlier designs. The system was revolutionary and was then a decade old when Mount Lyell decided to use it.

Robert Carl STUBBS
(1854-1922)
An American metallurgist and mining engineer, was engaged by Mount Lyell. In 1893, he persuaded the Company to use portable smelting which he perfected. He held the position of General Manager for 17 years.

Frederick Alfred CUTTEN
(1854-1912)
A New Zealand engineer, led the survey teams and proposed the Abt system for the railway. He rose to Engineering Chief for the Company.

Edward Corrus DRIFFIELD
(1845-1940)
Was 17 years old when engaged to supervise the railway construction. He stayed with the Company for 40 years, rising to Superintendent Engineer for 34 years.

Image: E.C. Driffield (L) with colleague VIT (R) Driffield.



Map showing Abt Railway in red and stations along the route from Queenstown to Strathorn.

Courtesy WCWR

To find out more information about this project please scan this QR Code.



engineersaustralia.org.au/engineering-heritage-australia


Engineering Heritage International Network based on 11 May 2020
Engineers Australia/Tasmania Division
West Coast Wilderness Railway



10. PUBLICITY

Tasmania Division employed a PR consultant to alert the media. He prepared a media release and issued it a few days before the event.

MEDIA RELEASE



April 2016

Media Advisory

Engineers Australia invites the Tasmanian media to the presentation of the Tasmania's first-ever Engineering Heritage International Marker to the West Coast Wilderness Railway at Lynchford at 11.30am, Wednesday, May 11.

The West Coast Wilderness Railway is the restored version of the original Mt Lyell Abt Railway, built in 1896 to carry copper ore from the mine in Queenstown to the Port of Strahan.

Engineers Australia, Tasmania Division, general manager Dr Vicki Gardiner said the award recognised the engineering excellence of the construction of the original Abt Railway.

"The Abt Railway Restoration Project was previously recognised as a recipient of an Australia Engineering Excellence Award in 2001 and the inaugural Colin Crisp Award in 2005," Dr Gardiner said.

"But this Engineering Heritage International Marker Award is of even greater significance, being one of only seven in Australia.

"Constructing the original Abt Railway through rugged terrain was a major engineering achievement which delivered economic and community development to the West Coast of Tasmania.

"The railway was the first example of the improved rack and pinion system, and has the longest running steam-driven Abt locomotives operating in the southern hemisphere. Many of the original engineering features are still visible, including the Iron Bridge over the King river, Huon pine culverts, and original rock retaining structures."

WHAT: Engineering Heritage International Marker to the West Coast Wilderness Railway
WHEN: 11.30am, Wednesday, May 11
WHERE: Lynchford, Tasmania

Special Note: Media and guests will be transported from Queenstown to Lynchford where the presentation will be made to Minister for Infrastructure Rene Hidding by Engineers Australia's national president John McIntosh. Passengers must be at the Queenstown station at 11.00 am.

The Engineering Heritage International Marker award includes a special plaque and illustrated panel of the West Coast Wilderness Railway.

Media contact: A.Mark Thomas, M&M Communications, 0422 006 732

Engineers Australia is the peak representative body for the engineering profession, representing more than 100,000 members from all disciplines of the engineering team. We maintain representation in every state and territory.

The media hits for the ceremony were as follows:

1 May 2016: [The Mercury – West Coast Wilderness Railway wins engineering acclaim](https://www.google.com/url?q=http://www.themercury.com.au/lifestyle/west-coast-wilderness-railway-wins-engineering-acclaim-on-the-world-stage/news-story/f94b2971743e9c0318ca2852be4b4257&sa=U&ved=0ahUKEwjRyYePqPbMAhVk56YKHcwxAggQFggHMAE&client=internal-uds-cse&usq=AFQjCNEV0dDdAqIRu3Ftp6SNG0PE62OISq)
<https://www.google.com/url?q=http://www.themercury.com.au/lifestyle/west-coast-wilderness-railway-wins-engineering-acclaim-on-the-world-stage/news-story/f94b2971743e9c0318ca2852be4b4257&sa=U&ved=0ahUKEwjRyYePqPbMAhVk56YKHcwxAggQFggHMAE&client=internal-uds-cse&usq=AFQjCNEV0dDdAqIRu3Ftp6SNG0PE62OISq>

11 May 2016: ABC Northern Tasmania Breakfast radio interview – Dr Vicki Gardiner with Belinda King

11 May 2016: WIN TV Evening news

12 May 2016: [The Mercury – West Coast's engineering marvel: Our little railway line earns great fame](https://www.google.com/url?q=http://www.themercury.com.au/news/tasmania/west-coast-wilderness-railway/image-gallery/2befc96d660be1a886641bb4cbcd7b77&sa=U&ved=0ahUKEwjRyYePqPbMAhVk56YKHcwxAggQFggEMAA&client=internal-uds-cse&usq=AFQjCNGTK2FIA2tKrZDkQrH89D4_w4Ksmg)
https://www.google.com/url?q=http://www.themercury.com.au/news/tasmania/west-coast-wilderness-railway/image-gallery/2befc96d660be1a886641bb4cbcd7b77&sa=U&ved=0ahUKEwjRyYePqPbMAhVk56YKHcwxAggQFggEMAA&client=internal-uds-cse&usq=AFQjCNGTK2FIA2tKrZDkQrH89D4_w4Ksmg

12 May 2016: [The Advocate – Historic Abt railway still paving the way](http://www.theadvocate.com.au/story/3901992/steaming-to-global-recognition/?cs=87)
<http://www.theadvocate.com.au/story/3901992/steaming-to-global-recognition/?cs=87>

12 May 2016: The Examiner pg 12

12 May 2016: [7AD radio \(online\) – Beloved railway dubbed engineering marvel](http://www.7ad.com.au/news/tasmanian-news/51205-beloved-railway-dubbed-engineering-marvel)
<http://www.7ad.com.au/news/tasmanian-news/51205-beloved-railway-dubbed-engineering-marvel>

12 May 2016: [SEAFM radio \(online\) – Beloved railway dubbed engineering marvel](http://devonport.seafmtas.com.au/news-menu/tasmanian-news/210397-beloved-railway-dubbed-engineering-marvel)
<http://devonport.seafmtas.com.au/news-menu/tasmanian-news/210397-beloved-railway-dubbed-engineering-marvel>

16 May 2016: [The Advocate – Opinion editorial by Phil Vickers – Award great for wilderness railway](http://www.theadvocate.com.au/story/3910775/award-great-for-wilderness-railway/)
<http://www.theadvocate.com.au/story/3910775/award-great-for-wilderness-railway/>

Other promotion events:

Media release – [Joan Rylah, Liberal Member for Braddon – Engineering Heritage International Marker for West Coast Wilderness Railway](http://www.premier.tas.gov.au/releases/engineering_heritage_international_marker_for_west_coast_wilderness_railway)
http://www.premier.tas.gov.au/releases/engineering_heritage_international_marker_for_west_coast_wilderness_railway

Media who attended the day:

WIN TV
The Mercury
The Advocate